

THE
NATIONAL GEOGRAPHIC
MAGAZINE

CONTENTS

	PAGE
MAP OF NORTHEASTERN CHINA	Supplement
THE COLORADO DESERT	DAVID P. BARROWS 337
With Illustrations	
THE CHINESE PARADOX	HARVEY MATTLAND WATTS 342
COLONIAL GOVERNMENT IN BORNEO	JAMES M. HUBBARD 359
THE WATER SUPPLY FOR THE NICARAGUA CANAL	ARTHUR P. DAVIS 363
MRS BISHOP'S - THE YANGTZE VALLEY AND BEYOND	ELIZA RUHAMAH SCIDMORE 366
FOREST RESERVES OF THE UNITED STATES	369
THE GREAT WALL OF CHINA	372
GEOGRAPHIC NOTES	374

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THE
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THE COLORADO DESERT

By DAVID P. BARROWS

The Colorado River, its cañon valley, and flood-plain constitute a series of physiographic conformations of impressive variety. The upper part of its course has been eroded across the great elevated plain of western America, through which it has cut its channel downward with so great rapidity that its valley walls, almost unaffected in comparison by weathering, rise sheer upward in the gigantic system of gorges known as the Grand Cañon of the Colorado. From the point where it enters California it is no longer a downward eroding stream, but sweeps grandly across the sterile plain of the desert, a dark, sediment-laden current, swinging back and forth across its widening valley. As it nears the Gulf of California and the rapidity of its stream lessens, the enormous loads of fine rock material, cut from the valleys through which it has torn its way, are deposited in a great flood-plain or delta, across which the stream pours south into the gulf.

As above this delta the low banks are unwatered, except at the very margins of the river, the sterility of the surrounding country is unaffected by its immense volume of water.

From whatever direction you approach the river within California or Arizona, the trail lies across sandy hill and thirsty plain, where are the dark marks of old volcanic activity, grotesque rock forms, shaped by wind erosion, and occasional stunted clumps of desert plants, with extremely modified foliage; but nowhere is there suggestion that you are upon the banks of the mightiest river of western America, until suddenly the ground drops slightly, and in an instant there come the dark green coloring of mesquite growth, the bright foliage of cottonwood and willow, the dazzling gleam of wide waters, flowing swiftly, and you are beside the long, shining river of Lope de Cardenas and Alarcón.

The discovery of the Colorado is one of the romances in the history of the discovery of this continent. In August, 1540, only 48 years after the first voyage of Columbus, the three small ships of Captain Hernando de Alarcon, sent up the Gulf of California to cooperate with the land expedition of Coronado, arrived at the shallow, treacherous head of the great estuary, and, in the language of the chronicle, "It pleased God that after this sort they should come to the very bottom of the bay, where they found a mighty river, which ran with so great a fury of a stream that they could hardly sail against it. So they entered into two boats, which men towed along with ropes from the shore." Up this river, which he named the "Buena Gula," cultivating friendly relations with its numerous Indian peoples, Alarcon went as far, it is believed, as the junction of Williams Fork, 85 leagues, according to the *Relacion*, "to where the river forms a straight channel between high mountains."

In the same month that Alarcon was dragging his boats up the turbid current, Coronado, now at the Pueblo of Zuni, heard of the Moki Pueblos of Tusayan. Pedro de Tobar, with 20 men and a priest, made the expedition from Zuni into that desolate corner of Arizona, where high on their mesas are still standing, as they stood then, the cliff villages of Hopi and its companions. From these Indians Tobar heard of a great river flowing across the western desert, and returning with this information to Coronado, the chief dispatched Garcia Lopez de Cardenas to search for it. His little band, returning to the Moki villages, struck boldly out across the desolate plain of the "Painted Desert," and after days of travel stood on the brink of that chasm of chasms, the Grand Cañon of the Colorado. They gazed northward across the apparently ascending buttes and gorges of the wonderful system, but were unable to reach the great river that looked like a slender rivulet far beneath them. "Its banks were so high," says the *Relacion*, "that they seemed to be raised three or four leagues into the air. The country is covered with little, stunted fir-trees, is exposed to the north, and is so cold that, although it was summer, we could hardly bear it."

Thus from sea and by land in the same year did the men of Spain discover the noble river of the Colorado at its most stupendous approaches. Almost at the same time a third little band, under Melchor Diaz, starting from the settlement of San Hieronymo, on the Rio Sonora, traversed Arizona from east to west and reached the banks of the Colorado which Alarcon had recently trodden. "In the

course of less than six months," says Baudohier, "the Spanish reconnoitering corps had thus three times touched the largest river of western America, had explored its shores with tolerable accuracy for a considerable length of its course, and had also traveled in two directions through parts of Arizona which have only in very recent time again attracted attention."

The arid region of North America covers a large area. Throughout there is presented that strange uniformity of physical features and life-forms that characterizes deserts the world over. The southern portion of the Colorado Desert possesses, however, features and curious features of its own. Its area is commonly understood to comprise the great depressed valley lying half in southern California and half in Lower California, inclosed on the west by the southward extensions of the San Jacinto Mountains, on the north by the desert range of the San Bernardino and Chocolate Mountains in California, and on the south by the course of the Colorado River from Arizona to the gulf.

In very recent geological times this region was an arm of the sea and the Colorado River reached the Pacific Ocean at Yuma. The geological changes that won this valley from the gulf seem to have been two: the upbuilding of an enormous delta from the deposits of the Colorado, and the crustal elevation of the earth beneath the central region covered by this delta to a height sufficient to divide the depression and to retire the gulf to its present shores far south of the line, while it left the upper part still below the level of the sea.* These movements turned the Colorado River into the region still depressed and transformed it into a splendid fresh-water lake. The evidence of the extent of this body of fresh water is most interesting. Its old floor remains, a deep accumulation of fine, friable soil, rich as the delta of Egypt, which in places is whitened by myriads of fresh-water shells, several small univalves, and a single bivalve, varieties of *amnicola* and *maclurea* still to be found alive in the Colorado itself. For miles along the mountain bases at the northern end, where the still waters of the lake once reached, there runs a broad, white band of calcareous deposit from the tiny molluscs that at one time inhabited its shores. Gradually, however, the river which fed this lake by its constant deposits built up an elevated flood-plain about its mouth that diverted its waters more and more away from the lake until the main channel, impounded in levees of its own making, carried the current

*Hutton, the lowest point in the desert, is given at 200 feet below sea-level, while Yuma is 175 feet above.

southward once more to the sea. The lake, fed irregularly and poorly, gradually dwindled as the silted banks of the Colorado became more secure, until it is represented today only by the Salton morass and other lagoons and the summer overflow streams by which these are supplied.

All this took place in very recent time. The Coachilla Indians, who today inhabit the upper end of the valley, have a distinct and credible tradition of the drying-up of this lake and of the occasional sudden return of its waters; and the Diegueños, who lived at a time when the supply of water along the central portion of the valley was probably much greater than at present, raised on the naturally irrigated soil abundant crops of maize, melons, and beans. But slowly the valley was abandoned to aridity. Almost unvisited by rainfall except about the edge of the mountains, the loss of the river left it cruelly dry. Low and inclosed between heat-reflecting ranges that shut off the breezes of the ocean, it gained a temperature which is one of the highest on the globe. The wind storms that rage up the valley from the southeast have drifted great dunes of sand over certain portions, and much of the country never reached by the deposits of the lake is as black, stony, and repulsive as eruptive rock formations in the desert can be. Apparently about the middle of the first half of the century the overflow from the Colorado was largely checked and not resumed to any extent until the year 1849. The Indians, who had lived in plenty along the central valley, were driven by the drought forever from their homes.

In November, 1847, the advance column of American troops, under Kearny, moving across from Fort Leavenworth for the conquest of California, crossed the desert from Yuma to San Diego. The troops suffered severely from thirst, finding no water, except a scant supply at Alamo Mocha, the first station after leaving the Colorado. In the middle of the plain they found a salt pool, approached through a thick, swampy quagmire, but the water was unfit for man or beast. This lake indicates at least a slight overflow at that time, and Major Kearny reported that captured Spaniards who guided them told of a stream of running water some miles south of Alamo. This stream the Americans were unable to find (no overflow taking place so late in the fall), and their experience led them to announce the desert as almost wholly without water supply.*

But in 1849 came the rush of emigrant parties from the southern

*See the report of Major Kearny, "*Notes of a Military Expedition*," 1846, Washington, 1847, pp. 109-127.

states through Texas and New Mexico along the Gila River trail into southern California, and these parties, pushing from the Colorado across the awful desert that separated them from the fertile lands of the coast, when midway on their course unexpectedly found themselves on the banks of a strong, turbid stream, which was not flowing toward the sea, but sweeping strangely northward into the interior. It was the sudden and dramatic resumption of the old Colorado inundations. They called it the "New River." Lieutenant Wilkinson, writing soon afterward in the *Pacific Railroad Reports*, says of this phenomenon of 1849:

"In that year the Colorado River was very high, and broke over a part of its banks between the mouth of the Gila and the head of the gulf. The waters flowed inland, running backward through the desert toward the center of the ancient lake. . . . The appearance of the stream was a subject of general surprise and wonder, and was an unexpected relief to the weary emigrant parties crossing the desert that year. It is the general belief that this overflow was the first recent instance of the kind, but it had evidently often taken place long before, and there are many reasons for believing that it once flowed in a larger and stronger stream than it has since its existence became known." *

Since 1849 the overflow of the Colorado River has been frequent, and since 1890 uninterrupted every summer. By most dwellers in southern California this overflow is well understood, but very few are aware of the circuitous and remarkable route by which the water of the Colorado, through New River, reaches Salton Sea. High water in the Colorado comes in the months of May and June, and the break in the upbuilt banks of the river occurs 10 or 12 miles below the Mexican boundary line, near Algodones, an old Yuma Indian village, where now is a Mexican hamlet and a station for several customs officers. From near the point where the break occurs a comparatively small current, the East or Abasco River, cuts its channel westward for about 30 miles, and then turns northwesterly into the United States, and on its way to the Salton Sea fills a large depression known as Mesquite Lake. The greater part of the overflow, however, takes another direction, and sweeps southwesterly almost entirely across the lower part of the desert until it meets the slope of the Cocopah Mountains. Here it creates a long, shallow body of water, called Volcano Lake.

This point is the divide, where the desert slopes northward into the United States and southward to the gulf, and from this lake the

* *Pacific Railroad Reports*, vol. 4. — *Geographical Names*, by Wm. F. Holmes, Washington, 1893, 104.

waters break away in both directions. The main current flows southward, and is called Hardy's Colorado, or the Hardy River. But when the overflow is at its height and the region about the lake has become a vast area of inundation, a splendid stream bursts away down the northern slope backward into the interior. This is the New River. Its main channel is accompanied by many sloughs, and wide areas for miles on each side of the current are submerged. Shortly after crossing the boundary line, the New River flows through a de-



LAND SCAPESLY INUNDATED ALONG BANKS OF THE NEW RIVER (NEW RIVER) NEAR THE MOUNTAINS OF CALIFORNIA

From a photograph by the author.

pression about half a mile long and 20 feet deep, known as Cameron Lake, and from here along its winding course northward are many lagoons and water-holes, for the most part pools of a few acres of extent, lying off the main channel and connected with the New River by short sloughs. They are surrounded by a growth of mosquito, and water in all of them lasts for many months after the New River overflow has ceased. Cameron Lake is one of the largest and deepest, and its waters have usually "held over" from one overflow to the next; the small, dirty, and reeking pool into which it subsides late in

the spring being the main reliance of desert travelers. The river, however, passes directly through the lake, and the lands of sediment which it deposits at every checking of its course are gradually filling up Cameron Lake and making it less reliable.

But even after the great summer inundation of the desert has subsided and Volcano Lake has become exhausted, the Hardy continues to be fed from the break in the Colorado through the Rio Padrones, and throughout the year its channel contains water. In summer and until late in the fall its current is from 100 to 200 yards wide and 20 to 25 feet deep, with a flow of at least two miles an hour in the center of the stream. Below the Sierra Madre it turns eastward, and joins the main channel of the Colorado again just above the gulf. At times of very high water a curious result occurs. Westward of the Cocopah Mountains lies a great depressed plain, lower than the Cocopah Valley, lower than the sea, the desert of the Laguna Maquata or Salada. Like the Colorado it was lately an arm of the ocean. At the southern end of the Cocopah Mountains the Hardy sometimes overflows and sends a current around the foot of the range and northward into this low region, creating the Laguna Maquata. This desert of the Laguna Maquata is a desperately arid and forsaken country, almost without water, except during these occasional backsets of the Hardy.

The main lines of travel—the old San Diego road through Jacumba Pass and the Warner's Ranch stage road by way of San Felipe and Carrizo Creek—meet on their way to Yuma at Laguna Station, pass by Indian Wells and Cameron Lake, and a few miles further on turn southward into Mexico and follow the Alamo wash to the Colorado River and Yuma. Scores of traveling teams continue to cross the desert each year along these old emigrant and government roads. The lower portion of the Colorado Desert, however, which lies in the Mexican Territory of Lower California and which extends from the boundary line to the gulf, is far less known and is, in fact, visited by few Americans or Mexicans. It is known as the Hardy River country or the Cocopah country, from the Indians whose *cocherias* lie along the Hardy Valley and the Lower Colorado.

We visited this interesting country in August, 1893. The overflow had been of unusual amount and of more than ordinary duration. Now River was still a swift, roly stream that defied crossing with wagons. All night in order to avoid the heat of the day, we had been pushing our mule teams across the sandy plains and rough mesas that make up those portions of the desert between the Sierra and the rich, level, fluvialite deposits of the central depression.





1900. When a 1 stone water-lily, was present in a bog. The
 surface of the lake at this time was of a brown, somewhat green
 color, the rock and soil gave suggestion of the color of the surface as
 a brownish green color. The long, grey and green of the water-
 lily leaves.

on the night clear and beautiful though there was a low fog

to be clear to the eye the sterile and unproductive character of this part of the Colorado Desert. Too high for the incoming waters of low tides, rough and hard wind-swept lava and desolate withered scrub cover the not always fertile and sterile lowest areas of the coast.

By an exposure of the globe the way led down to the sand that presented the first rocky deposits but did not cut ake. The diversity of the vegetation was much noted and noticed. There was a wide belt of shallow waters that looked like a lagoon, then shoals of green the vegetation - mangrove for the station as a whole was seen, not a narrow fringe

It rained so fast that the land began to rise. There were small islands of sand and of water rising only a few feet above the water. Then a deep geyser burst in the air and a huge, large flow of water, which was in the shape of a river of fire, came and flooded the air with fire. The New River, not over a mile long, began to flow, the water rising to break by each geyser. The river was later not the current, and a wall of water, some 20 feet wide, was sweeping us west up a road irrigating the edge of the river. The canyon lake and the lake were full of water, and the water was in the air. The water was only by the water, and the water was in the air.

[illegible]

Report pages 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 8

As the way leads on toward Sleeping Mountain, the perfect peak of the Colorado range disappears from view, but in front appears the

of the Sierra Prieta, called by Americans "Black Butte." Such active eruptions of lava as took place this perfect crater are a thing of the past, and any volcanic activity is at present entirely dormant.

The most striking volcanic phenomena of the desert. These are found in two places on the Colorado Desert—in the Colorado Valley a few miles from Sierra Prieta, and farther north, just north of Salt Lake.

The most striking of the Sierra Prieta is a perfect cone of volcanic action. North of the mountain and half a mile from its base are three lakes, the largest 100 yards long and 50 feet deep, and the two

the rock of the mountain is a perfect volcanic cone. The lava flows are as well as the perfect cone. The Sierra Prieta is seven miles high, and with the deposit of broken lava that surrounds its base has a circumference of seven or eight miles. The rock is more or less lava, with

The rock of the mountain is much broken by weathering, but the edge of the crater is perfect. The foot of the deposit is a smooth and even and even to the very edge, even to the very edge. Water at times has stood at a level higher than the crater. It is 250 yards across the perfect volcanic cone. At the center of the foot a small basin once held a small lake, but the water has since the last stage of the water.

The mud volcanoes are a few miles south of the Sierra Prieta, and among the overflow are a few miles from the waters of the New and Hardy Mountains of the "salt mountains," which few of the people are a small lake, the green waters of Lake. At the time of my visit one of these mud volcanoes was a few feet below the water, and the mud never got above the surface with a mud volcano that could be used at the time of the mud volcano. Along the shores

of the lake started jets of boiling steam, and little streams of hot water escaped from the fissures. They were small and were not of any use. At the edge of the water were four or five small craters, 8 to 12 feet in diameter filled with hot water, in which was a crust of soda. It could not escape of gas. The bank was covered with black porous rocks, and a carbonaceous grass grew at the edge of the water. The meadow ground was everywhere hot and the tiny rocks were smoking. The rim of the shores of the lake after the overflow had ceased covered most of this ground, excepting the greater part of the year. A small pond is left, however, where waters assume a deep wine color, and

on the red ground. It is called the Laguna Pineta, or Ink Lake. At

about twenty feet across, had left a fall of a beautiful deposit of sand and gravel, greenish white and apparently pure.

The real center of activity is the center of a large crater of the point

on the point of lava at a small point on the west, and low down, but not so low as the crater, is between it and the lake. The water

is about 100 feet deep and is filled with a dense and voluminous

and black ves of gas, which is very hot. I counted some 20 in the air. Many were quiescent, silent or very low. About 15 were very

of the fact. On the side there was the use of escaping gas, the explosion

and a rush of air surging out. Except for the persistent "clack

clack" of the log house. The first on the lake was bare foot, running the plank and on the right the subject came out on a plank upon the same side of the shore and a large pool of warm water on the edge of the lake. I could see a large number of ponds and a pole for that. I saw the lake. I saw the lake. It seems to be a very hot, but proved to be very hot. Near by was another very hot, but, why, and according to the fact.

For at least 50 years and we know not how much longer before

getting, and the heat that lies beneath them and even the fire will

and when it has slowly retired and leaves a large field at its rear, the fire at front and back is then every now and then at intervals of a few feet and in these spaces a few seeds. The moisture and excessive heat is able to produce a rapidity of growth, that is as certain. It is too early to be beginning of agriculture, and one may have a foreboding such a situation arose in the village of the N. and the Oxis. Two hundred and sixty years ago, when there is no more as they do today.

The great moral war of the warlock now utilized to support and fill by American capitalism. Thousands of head of stock are devoted to such as the the vast on cases. Below the line a full and full on a valley I saw a magnificent herd of (1,000) the property of a Chicago cattle man who I had seen the morning before in the region for several years.

The care of cattle in the desert gives rise to a number of interesting facts. It is not far from home as exists among farmers in the States. The following is a review of the work of an easy life. Here in the desert of the Colorado Plateau trade and commerce are scarce, but. Food and water are scarce but a late winter and spring before the season arrives, mostly water and mostly cattle are scattered all the country, for starting cattle grow restless for by the previous month, then comes the winter, and a large mass of cattle are in the desert clay because the soil is not so good as the fat of the earth. The cattle are severely punished and many are unable to put themselves out of the land for winter. They are not able to get in their efforts to reach food and water. One can see up, however, that the cattle are not "digging down" for food but are soon found with digging sources in the bottomless clay of the Colorado Plateau. From this it follows that the cow boy must be in

• Let of coffee, baking powder bread and pork of beef constant in the

owner of a number of cows doing as I indicated against them

the routine forms of care.

me it was not to be returned as fully as the native population required.

I assume the attitude of a superior state dealing patiently and courteously with its feudatories. The anomaly, which the Powers might better never have endured as such, was the exercise of diplomatic relations that normally existed between great nations with the position of a viceroy or a lackey was a worse one or less ignominious, and any resolution on the part of the Chinese always possible for, as great and powerful as was the Manchu court, it would never have dared to attempt to wipe the slate clean and not to these conditions completely yielded that the Powers, which for 40 years had allowed the Chinese to be treated in a manner beneath the dignity of the states they represented, would not interfere were a decree that foreign envoys could not be so lightly summoned and sent.

However small Chinese sovereignty was even at the treaty ports, at the capital it not only saved "the face," but by forcing Europe and America to accept as well as to acknowledge as to the world — the supremacy of the "Son of Heaven," and a presence at least except, in which were no other possibilities of evil. A warning was taken of the consequences of the Powers as to what they considered were not desirable, and which to the Chinese mind were distinct requirements of national rights. The envoy who left his home on such a consciousness of the fact that in him was personified the greatness of the country he represented and that he was the representative of a high civilization, was kept in Peking for a time, then he was surrounded by the reverent respect and awe and discomfort of the life of a viceroy subject to the personal tyranny of a viceroy and etiquette he was obliged to maintain and was obliged to carry out, I cannot recall one thing even so simple as with the difficulties as to the usefulness and realization of his mission. Amazed and disgusted he was permitted, "repatriation" and "consolation" for the occasion was that a few associates were in the capital and he had got used to it.

That the present Chinese is due to the influence of the foreigner in inferior and inferior positions. After centuries of the same, the Chinese mind and soul are now a story. As the foreigner of our time with his position occupied by the Chinese (which grew, the foreigner became better and when they were associated with the European of 1840 and the Chinese mind was now occupied by the foreigner.

found that a of disorienting conservatism that had existed since 1894 was too much for the British, the French, the Belgians, and the Chinese. The major reason for the last two was that the reactionaries carried the day, fortunately, however, to their defeat at which the might of the strange but one would have argued against them.

As Lord Powers have neither admitted of nor retreated from of the issues involved, this last outcome of 40 years of stalemate and attempt to have it all was bound to occur, never to be repeated. The moderate superiority of government processes and its own nature and the British have at leastly had a far more extended circle, and cannot be set at naught unless the Powers deliberately wish to undo the good work now under way. Whatever may be the final program, cooperation, open or veiled, there must not will be an end of the expansion and the rest. To be effective the re-objection of the foreign relations of China must be indicated by which a definite responsibility must be assumed and then and announce the actual economic and political superiority of the western

any and the consequences of China. It is the imagination that controls actions and power, and we have known this better than the very

olds who under one pretext or another made power to do what they supposed to have done. The foreign Powers, though the studied nominal friend of the Chinese. The long privilege of the two very East-Asians, Japan and Korea, whose regions are rich in food with Chinese domestic economy with the West, played into the hands of the colonial powers even to the point for the Powers to have themselves from a situation, which has had its result as well as its progress. The peculiar relations that the nations play with it must be recognized, were first established in 1861, and it was not until 1867 after six years of hard struggling for years with the newly organized League of Nations, purposely from a former board and assigned to serve outside law with of the Imperial City, that they were granted an audience with Turgot's men but it was not until 1867. At once the great British raised the preposterous question of recognition, though they knew it was a complete and American minister would not admit to such a recognition as a matter of fact. The result was

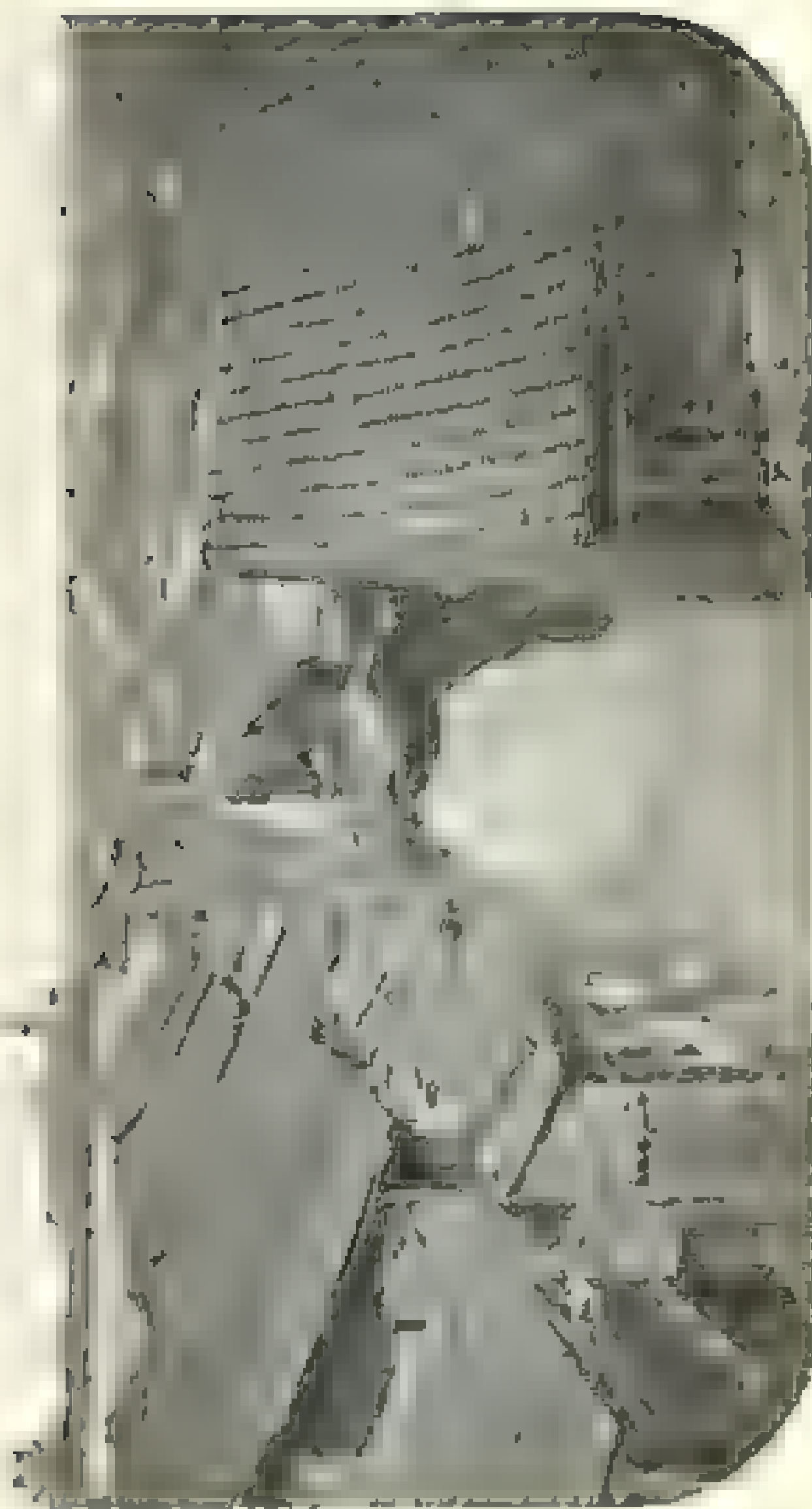
perform the ceremony and the adaptation of modern times, only the

their diplomatic games, and, besides, in this they got even with the Japs by not paying reparations, by receiving the services of the call of Treaty of Shimonoseki outside the formal process.

Yet it was Kangaku came of age and a final peace was agreed on in 1895. Little did it all depend on the fact that the peace treaty was signed. The ceremony being made even more by a long and dignified of the envoys, they became known as a body never to submit to the imposition again. A few private influences were left consequently rather in the common line in the following years. But it was not until the Japanese war, in 1904, had struck the Chinese that a real hard driven began a few pointed lessons at the expense of a government yet not the real spirit of the nation and the envoys that had been about. The Powers, however, at the limitation of the resources through the Tsung-tai Yamen continue to conform to the moderate by yielding continuously until the collapse of 1911 and the emergence of the new regime—the fact of the fact to have a very different body in

that I need not further describe of the very real and actual in the act of the regime. Consequently the Manchurian conspiracy, which has been under way for two years, came to a head in June, to the surprise very chance cases that practical involved it and to the end of the envoys. Though revealed in a formal force and forecast in political changes, when the crash came they sat helter-skelter because they were not able to put up with the view of the whole movement, as they were (in fact) not able to do so. It is a very forgetful and a paradoxical situation is never so true as when they were known to the fact of its appearance also is about the surface just as before. But all this is past, and the particular does to point the actual collection of exposed persons and point to nations that had their very own civilisation and finally yielded to nineteenth century science and to the new century sense.





COLONIAL GOVERNMENT IN BORNEO

by JAMES M. ALBAND

It is not more than sixty years since there landed in Borneo a young missionary, not of the usual kind of good government. When voyaging with the *John Thompson* in 1840 he was deeply impressed with the fact that these islands of unexploited beauty and natural resources were peopled with natives who were by no means backward in carrying on piracy on a vast scale. He determined to promote among them the principles of the Christian religion, to lead the natives to respect and appreciate the value of law and order. And now, two years later, he has come to a yearning wish to see of the natives the same which he has seen in Japan. The time was apparently ripe for the introduction of the ideas which he brought, but he offered his aid to the Sultan and to a powerful British servant was one of the of Sarawak. His first task in establishing his power was to reform the principles of government to prepare a code of laws, and to develop commerce as the most effective means of settling down piracy. He endeavored to make his native subjects understand that the main object of the government was not the commercial exploitation of the country or the increasing of colonial revenues, but the preservation and well-being of the people themselves, that their ruler would be a father only to the old starters of the general peace and the education of the community.

How has this little experiment in ruling men of a low type of civilization on credit?^{*} In attempting to answer this question I will review the history of Sarawak since 1842 to 1890, year by year with the help of the following sources:[†]

1. *Journal of the Sarawak Museum*, 1884, an extremely valuable source, which has very recently been edited by Brooke by the Sultan of Brunei. In 1880 he was appointed Resident of a post which he now holds. The post itself is a long, narrow square miles in extent, with a population probably not far from 200,000, and the governing staff consists of the Resident and an assistant. He is the only white man in the district and he has 20 or 30 Dyaks

under his rule. His private executive is a Dyak chief whom he

^{*} See also *Journal of the Sarawak Museum*, 1884, p. 10, for the history of

[†] *Journal of the Sarawak Museum*, 1884, p. 10, for the history of

to show that their method of counting is self-sufficient. Some of the relations of the squares of natural numbers to each other are used, and as an example a person takes such numbers as 1, 2, 3, 4, 5, when five have been counted, and all of them are then added to the counted five, and so on until 10 is reached, and then all have all been told off, when another man is used and this continues until the numbers are multiplied, when they have to see how many men have been used, and when the last is reached. The extraordinary willingness to pay tribute on the part of savages who had never before seen a white man is noticed by Professor Hildner, who says that they pay it "because they can feel that they are citizens of the King, they really do belong to the government, and the tributes are by no means small. They know well that by paying two dollars a year they will have peace, and be able to trade, and have all the advantages of a civilized government, and they feel that it is really a good interest for them."

Before leaving Mr. Howe went about for a week or more making his arrangements for his and Madam's choice of a official residence at Honolulu. This was no problem at all, for, as the usual rule was being pressed. At one of the meetings a Madam's chief made a very eloquent and remarkable speech, in which he explained that his people had for years been anxious to fight on all sides in order to be able to take care, but were now happy able to appreciate another kind of peace and the

possess of the Island and surrounding districts—a condition of things which he would do his utmost power to destroy. The result of outcome of this peace-making was a proof of the chief's sincerity

and collected large quantities of native produce, and these very soon by means of the mail are now being used as a means to bring about friendly relations between our people and the natives. As Professor Hildner says, the Hawaiian customs and native habits in the highest degree conform to the principles of human nature after the model of Mr. Howe to persons in the Pacific to take over the responsibility, and that not being a native Hawaiian seeing how the people of Hawaii can live in peace and safety are coming over to the Hawaiian to put the same system in operation as of Mr. Howe. A few days ago he received a message from the people of the island of Hawaii that a portion of the people were accompanied by a number of canoes, and that the result of his people with the natives of the island. The message he sent to the Hawaiian was to the effect that his people

same sort. They have been divided and have creases in a coat of mistakes and the foolishness of unimportant leadership, but he was anxious to meet the Indian people and glad to make peace. He is

the earnest of a starting their journey in the Indian Navy.

The secret of the speed and success of his journey is that "the confidence of the natives has been won and retained by an unbroken record of promises fulfilled and honest assistance." Thus they have been led into the belief that the single aim of the white rulers was their well-

being," as Mr. Hume's words, "and a way has been set on the side of the government and it is not too much to say that the whole framework of the Indian Government is based on this principle. I am not sure that the principle of the British is to be put in practice for it is to be put in practice. How much is it to be put in practice?—an important matter, for "you can never get at a

task like this "without energy and enthusiasm for the cause." It

Young Indians come down on a visit to Mr. Hume and stay with him for days or weeks at a time, so that this way the people learn what a white man's respect for a white man is like and what a government really means. Thus Mr. Hume's residence is a sort of university, where the people are from all parts of the country to learn and to be the meaning of government.

Not only attending to his official duties as to the work of other interests. He has replaced a valuable map of India's history, which has just been published by the Royal Geographical Society. The new map is a masterpiece, in the hands of the British Museum of the extraordinary efforts to make the map so that have characterized Mr. Hume's residence in India. He has made a map of the whole of India, not only of the land, but of the sea, and of every kind of land. Not only is he given to the British Museum the first fruits of his work during his sixteen years' residence in India, but he has put at the disposal of the whole world that has not received his work from the world's end a young man, second in yet a thousand

great importance to the countries he has benefited." We may add

in view. In 1895 the value of the total trade of the country was \$9,143,828, a gain of over 100 per cent in ten years, while the government's balance sheet showed a surplus of \$4,408,700.

Charles Hise is the type of ruler over races inferior to the white race and not civilized by white King and has been nearly completely ignorant for the past hundred years, and it is to his discredit that he allowed that ignorant and feeble type of aristocrat to complete a canal project so important to the welfare of a nation of two million inhabitants. It is to Hise's credit that he must rise up to rescue these Englishmen when they were over the government of the people for the people supported by public opinion or we should find no better results than the Spaniards have done.

THE NICARAGUA CANAL PROJECT

By AMANDA P. DAY

Hydrographer of the International Great Lakes Commission

In the *Scientific American* for February 24, 1900, appears an article by Professor Angelo Heppner, entitled "A new method of measuring the level of Lake Nicaragua—a question of permanent value to the Nicaraguan Canal." This article purports to show, from our hydrographic measurements taken with more recent observations, that the level of Lake Nicaragua has very markedly advanced within recent years. A very remarkable reply, from a geographical standpoint, by Dr. A. W. Hayes, was published in the *Nicaragua Commission Messenger* for April, 1900.

In the *Scientific American Supplement* for May 12, Professor Heppner repeats his article, another article in which he demonstrates that the level of Lake Nicaragua is actually rising, and that, in addition, he shows from the observations of the Nicaragua Canal Commission, that in the period of these measurements, the lake has declined 20 feet in 150 years, a decline without parallel in fifteen years. To arrive at this conclusion, Professor

Heppner takes the level of the lake as determined by the Nicaragua Canal Commission. He gives a table of the level of the lake based on a report of the chief engineer of the Nicaragua Canal

of 1871-72, which ought to be regarded as exceedingly liberal.

As an additional fact, no one knows when was the discharge, either maximum, minimum, or mean, from Lake Neeragwa prior to 1878.

For a period longer than the known human record and not always within the last generation it is certainly both necessary to transfer from it over the rapids during the dry season a large quantity to do this during the season of high water. These facts are based not only upon the testimony of several local gentlemen, such as Hon. W. L. Avery, but upon the record of the transit company and the United States Mailer to Neeragwa and Costa Rica, yet upon the existence of the night-rail steamers and lighters used for these purposes at that time which fully bear out the testimony that the regulation of the San Juan River, and therefore of Lake Neeragwa, has not materially changed within the memory of man as well as of time.

If the conclusions drawn by Professor Hurler are correct, Lake Neeragwa has seen only a short time at its present stage, but within a long enough time it has run to a very ancient and the denouement

has been ultimately increased of perhaps twenty or thirty years ago?

But the remaining abundance evinced by Professor Hurler in the city is that the old Spanish fortifications at present, the walls of churches, and a part of the city as well as several temples and houses and the lake must have been all constructed on the water, and so they are - or have been - for centuries and a half ago.

It is a curious fact that, as stated by the same author and shown that there is no probability of a recurrence of very wet years to render

profits from the Havagwa for ever. "So far as known, there is no evidence whatever that the rainfall has ever been greater in this region than it is at the present time." This statement is employed at the close of an article which purports to show conclusively that the water supply to Lake Neeragwa is a very greatly decreased within a generation and that therefore there is considerable evidence that the rainfall has been greater in the region than it is at the present time.

FOR SCIENTISTS OF THE UNITED STATES

[illegible]

agreed to a 10 percent increase in the
annual amount. However, the \$400,000 paid in 1980 was not enough to
cover the annual cost of the maintenance of the bridge. The bridge was
closed for 10 days in 1981 and 1982. The bridge was closed for 10 days in 1983
and 1984. The bridge was closed for 10 days in 1985 and 1986. The bridge
was closed for 10 days in 1987 and 1988. The bridge was closed for 10 days
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for 10 days in 2009 and 2010. The bridge was closed for 10 days in 2011
and 2012. The bridge was closed for 10 days in 2013 and 2014. The bridge
was closed for 10 days in 2015 and 2016. The bridge was closed for 10 days
in 2017 and 2018. The bridge was closed for 10 days in 2019 and 2020.

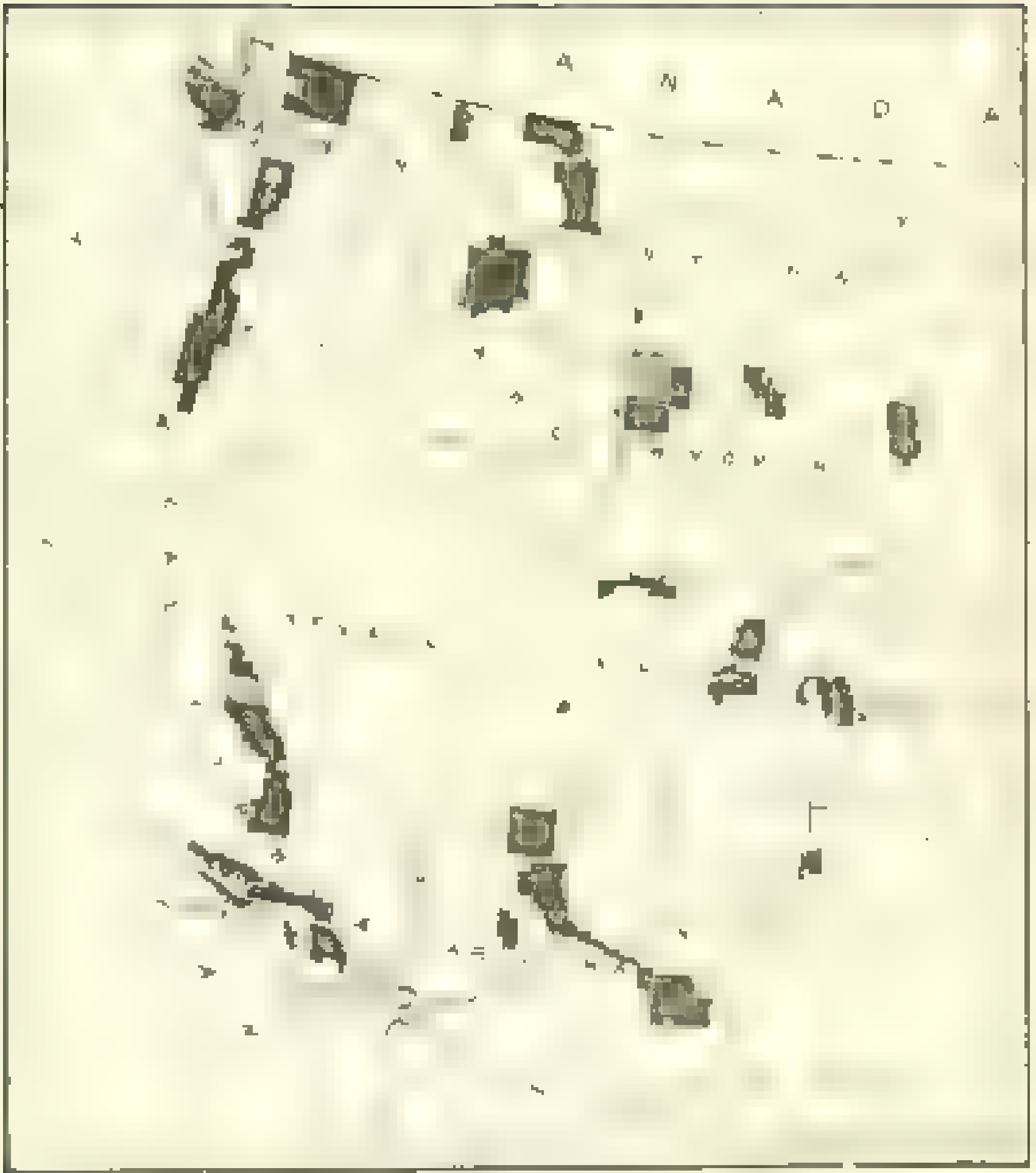
A further point for consideration is the fact that, as in the case of the other two countries, the number of people who have been convicted of sexual offences has increased in the last 10 years. In 2005, there were 100 people convicted of sexual offences in the United Kingdom. This was an increase on the 80 people convicted in 1995. This increase may be due to a number of factors, including an increase in the number of people who are reporting sexual offences, an increase in the number of people who are being convicted of sexual offences, or a combination of these factors.

George H. Baskin et al., *U.S. 42 Appex, and the Federal Reserve: A new data and review of the Federal Reserve's role in the 1930s*, *Journal of the American Statistical Association*, 1994, 89(427), 1031-1040.

[illegible]
$$= \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} e^{-t^2} f(t) dt = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} e^{-t^2} f(t) dt = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} e^{-t^2} f(t) dt = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} e^{-t^2} f(t) dt$$

1. The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) as $t \rightarrow \infty$. It is shown that the solutions of the system (1) are bounded and tend to zero as $t \rightarrow \infty$ if the matrix A is stable. The second part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) as $t \rightarrow \infty$ if the matrix A is not stable. It is shown that the solutions of the system (1) are unbounded and tend to infinity as $t \rightarrow \infty$ if the matrix A is not stable.

2015年12月31日 星期三



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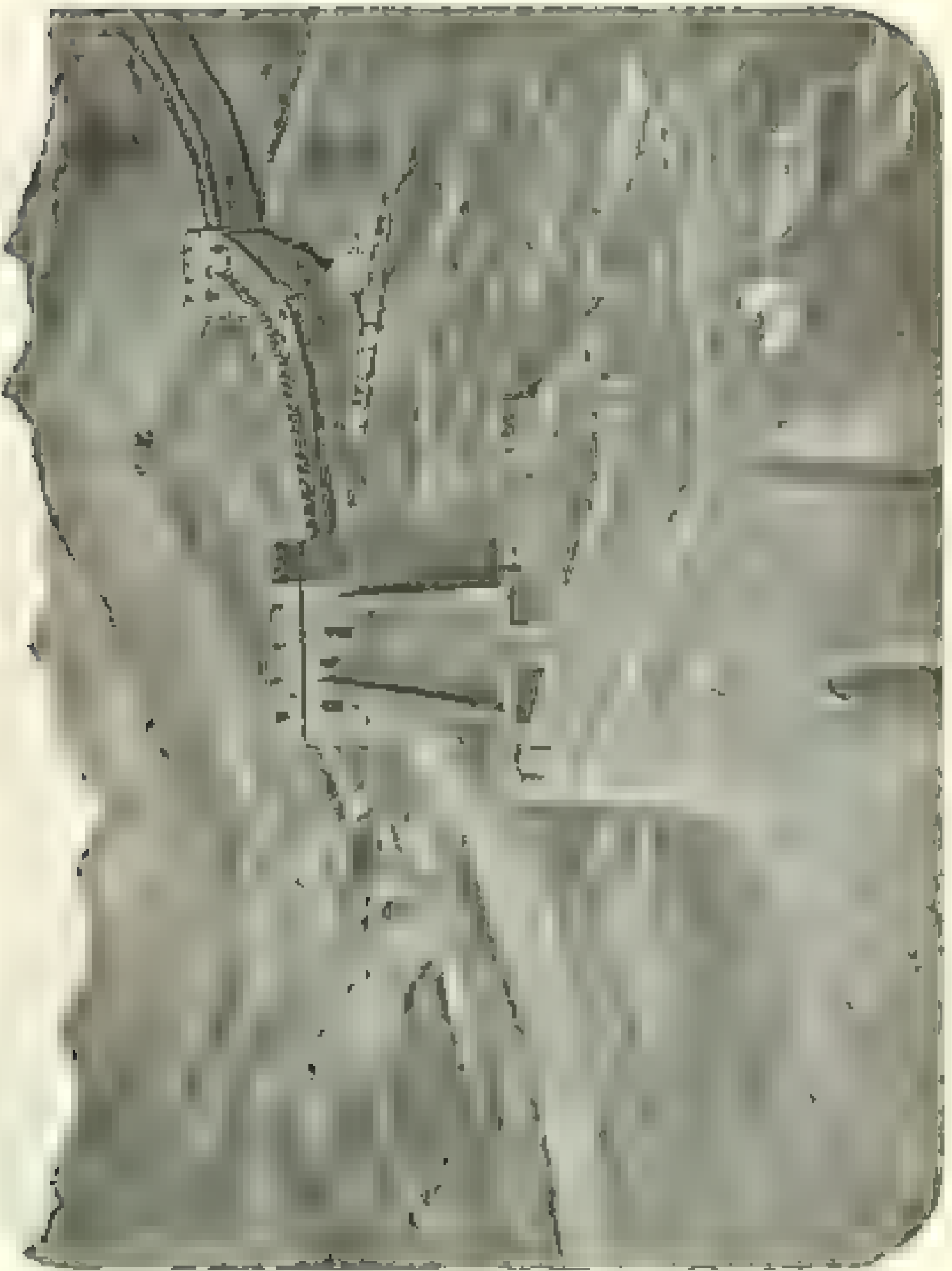
Let us now turn to the third case, namely, the case of the superposition of the states along the first axis of the coordinate system of the σ spin. In this case the σ spin is in the state $\sigma = 1/2$. According to the definition of the σ spin, the σ spin is in the state $\sigma = 1/2$ if the σ spin is in the state $\sigma = 1/2$ and the σ spin is in the state $\sigma = 1/2$. This is the case of the superposition of the states along the first axis of the coordinate system of the σ spin. In this case the σ spin is in the state $\sigma = 1/2$ and the σ spin is in the state $\sigma = 1/2$. This is the case of the superposition of the states along the first axis of the coordinate system of the σ spin.

1. 2019 年 12 月 31 日，甲企业“应付账款”科目所属各明细科目的期末贷方余额如下表所示：

[illegible]

August 14 - 1947. The whole of the last summer has been given up through the
 almost total withdrawal of the air - I just have to go down to the water and
 down again to see what has happened. I have not been out since I was 12. I am
 now 14 years old. I am now 14 years old. I am now 14 years old.

1) The set of all $x \in \mathbb{R}^n$ such that $x_1 = 0$ is a linear subspace of \mathbb{R}^n .



14. If the net of your projected annual sales is \$100,000, then you will need to have a minimum of \$100,000 in sales to cover your fixed costs. If you have a net of \$100,000, then you will need to have a minimum of \$100,000 in sales to cover your fixed costs. If you have a net of \$100,000, then you will need to have a minimum of \$100,000 in sales to cover your fixed costs.

the, under a of that of the storm, which together with the other circumstances, is a most singular and extraordinary phenomenon, and the only one of the kind which has been observed in the history of the world. The singularly long and narrow shape of the island, and the peculiar position of the mountain, are also very singular and extraordinary circumstances, and the only ones of the kind which have been observed in the history of the world. The singularly long and narrow shape of the island, and the peculiar position of the mountain, are also very singular and extraordinary circumstances, and the only ones of the kind which have been observed in the history of the world.

CHAPTER 5 Notes

[illegible]

A new era of human history has opened before us by the dawn of the new millennium. We have entered an era of unprecedented global unity and interconnectedness. The world is now a global village, where the actions of one person can have a profound impact on the lives of others. This is a time of great opportunity, but also of great challenge. We must work together to address the many global issues that face us, such as climate change, poverty, and human rights. Only by working in unison can we create a better world for ourselves and for future generations.

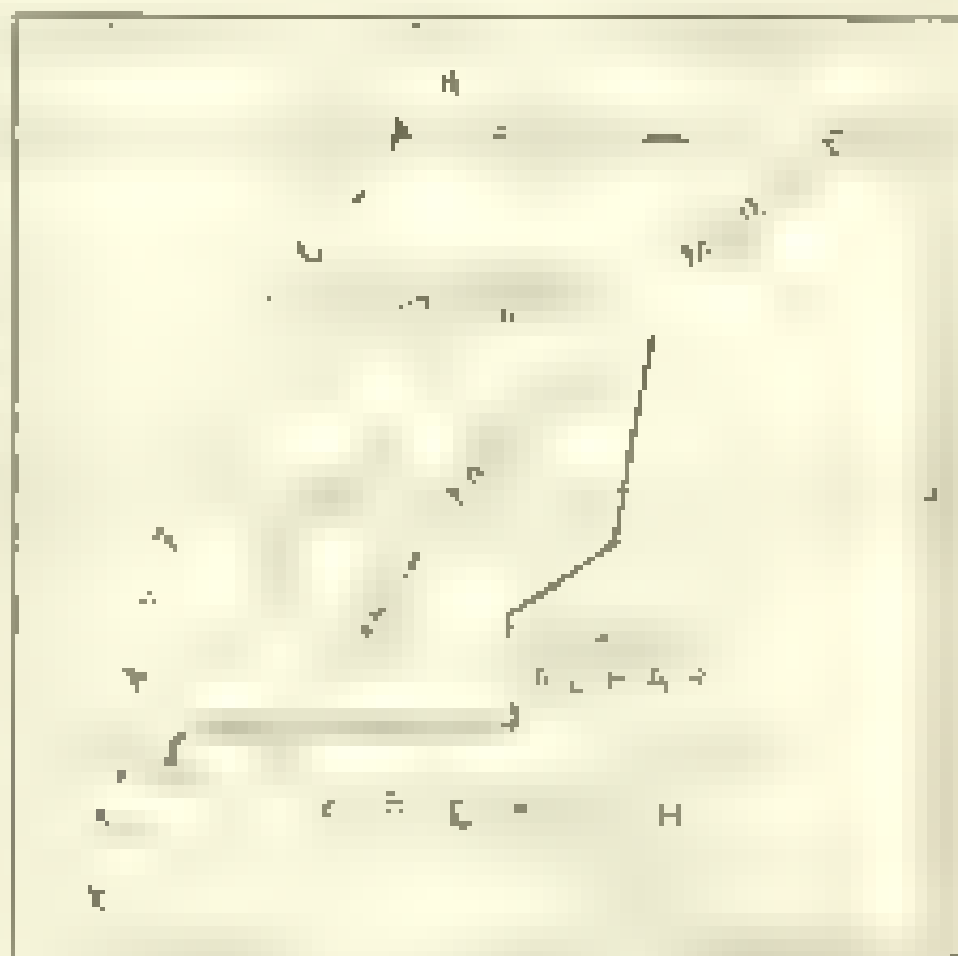
[illegible]

1. The first of these is the fact that the Commission has not yet received any information from the Government of the Republic of the Congo regarding the situation of the Commission's mandate.

⁴ $x(t)$ is a function in the space $C^1([0, T])$ which means smooth in t and continuous in x . In addition, $\dot{x}(t)$ is continuous in t and $x(t)$ is continuous in x .

[illegible][illegible]

As a result, the *Journal of Management* has been able to publish a wide range of research, including studies that have been critical of the dominant paradigm in the field. This has helped to advance the field of management research and has made the *Journal of Management* a leading journal in the field.

[illegible]

1. The first step is to identify the problem. In this case, the problem is that the system is not working as expected. The user has reported that the system is not working, and the user has provided some information about the problem. The first step is to identify the problem, and the second step is to determine the cause of the problem. The third step is to develop a solution, and the fourth step is to implement the solution. The fifth step is to test the solution, and the sixth step is to document the solution. The seventh step is to provide training to the user, and the eighth step is to provide ongoing support to the user. The ninth step is to evaluate the system, and the tenth step is to make improvements to the system. The eleventh step is to provide a final report to the user, and the twelfth step is to close the case.

[illegible]

13. For each
 a. Write the number and name of the
 state in which the subject is
 located. By the top of the
 date of the, however, 1947.

Let \mathcal{P} be a fixed \mathcal{L} -formula, \mathcal{M} a model, \mathcal{A} a formula. Then $\mathcal{M} \models \mathcal{A}$ is a formula of \mathcal{L} (in \mathcal{M}). The formula \mathcal{A} is \mathcal{L} -valid if $\mathcal{M} \models \mathcal{A}$ for every model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -satisfiable if there is a model \mathcal{M} such that $\mathcal{M} \models \mathcal{A}$. The formula \mathcal{A} is \mathcal{L} -unsatisfiable if $\mathcal{M} \not\models \mathcal{A}$ for every model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -consistent if $\mathcal{M} \not\models \mathcal{A}$ for some model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -inconsistent if $\mathcal{M} \models \mathcal{A}$ for every model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -valid if $\mathcal{M} \models \mathcal{A}$ for every model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -satisfiable if there is a model \mathcal{M} such that $\mathcal{M} \models \mathcal{A}$. The formula \mathcal{A} is \mathcal{L} -unsatisfiable if $\mathcal{M} \not\models \mathcal{A}$ for every model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -consistent if $\mathcal{M} \not\models \mathcal{A}$ for some model \mathcal{M} . The formula \mathcal{A} is \mathcal{L} -inconsistent if $\mathcal{M} \models \mathcal{A}$ for every model \mathcal{M} .



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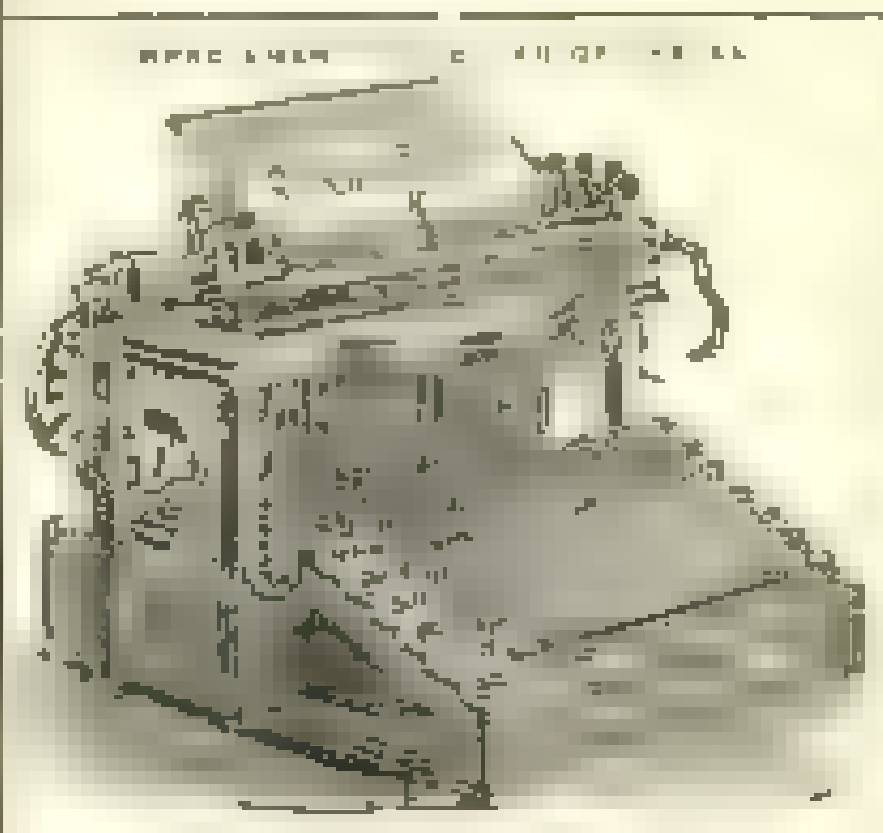
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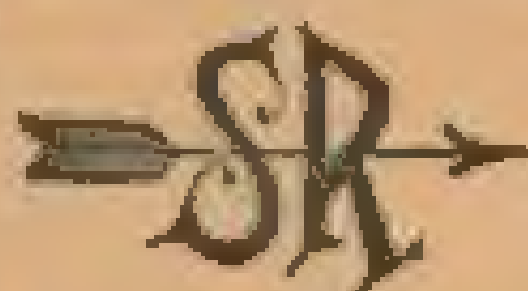
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